Amendments to the Specification:

Please replace paragraph **[0019]** with the following amended paragraph:

[0019] where S is the Laplace operator. From Equation (1) it is seen that the noise in the power supply (Vpos) is propagated to the positive input port 202b of the TIA 202 and the thermal noise from R2 is ~~preferablyattenuated~~ preferably attenuated by a pole formed by C2*R2. The output signal of the TIA 202 at a first node e1 231 is determined by Equation (2):

$$a.\quad e_1 = \frac{V_{pos}\text{-}I*R_2}{1+S*C_2*R_2} - I_{signal}*R_f \qquad (2)$$

Please replace paragraph **[0022]** with the following amended paragraph:

[0022] The output port 202c of the TIA 202 is connected to a positive input port 204a of the differential amplifier 204 for providing the TIA output signal thereto. In addition, the TIA output signal is provided to a filter circuit 206. The filter circuit 206 is formed from resistor R1 211 and capacitor C1 221. A second node e2 232 forms an output port of the filter circuit 206, where this filter output port 232 is for providing a filtered signal and is coupled to the negative input port 204b of the differential amplifier 204 via a unity gain buffer 205. The unity gain buffer 205 is used to prevent a DC offset between the input ports of the differential amplifier 204. Capacitor C1 221 is disposed between the second node e2 232 and the positive input port 202b of the TIA 202. With respect to the TIA output signal from output port 202c, the filter circuit 206 acts as a low [[high]] pass filter, for attenuating high frequency components of filter output signal provided at the second node e2 232. With respect to the first bias signal provided to the positive input port 202b of the TIA 202, the filter circuit 206 acts as a high pass filter, attenuates low frequency components of this signal at the output port of the second node e2 232.